ECE3156 – SOFTWARE ENGINEERING
CO1- Test

Time: 30 minutes   Total marks: 25

Instructions:
1. This question paper consists of 2 pages with 1 question only.
2. Please print all your answers in the answer sheets provided.

Question 2

(a)   Explain the following testing strategies, respectively:

  i.   Integration testing.

[2 marks]

  ii.   Validation testing.

[2 marks]

  iii. Alpha testing.

[2 marks]

  iv.   Beta testing.

[2 marks]

(b)   State and describe three (3) different approaches of debugging.

[3 marks]

(c)

```
LN1:  i=0;
LN2:  n=4;
LN3:  while (i<n-1) do
LN4:  j=i+1;
LN5:  while (j<n) do
LN6:  if A[i]<A[j] then
LN7:  swap (A[i],A[j]);
LN8:  end do;
LN9:  i=i+1;
LN10: end do;
```

Program Listing Q2: Code snippet.

With reference to Program Listing Q2, construct a flow graph to illustrate the control structures in this code excerpt.

[6 marks]

(d) From part (c), calculate the cyclometric complexity for the corresponding code excerpts using the following methods:

     i.   Region.

[2 mark]

     ii.   Edge calculation.

[2 mark]

     iii.   Predicate methods.

[2 mark]

(e) From part (c) and (d), provide the set of possible execution path of the program.

[2 marks]

End of Paper